

CLAIMS

What is claimed is:

- 1 1. A combination dip tube assembly and a container pump for use with a
2 container disposed in an inverted condition, comprising:
3 a) attachment means for attachment to the container;
4 b) a pump mechanism carried by said attachment means for dispensing
5 material from the container comprising:
6 1) a pump movable between pumping and non-pumping positions,
7 and
8 2) a dip tube extending between said pump and the interior of the
9 container;
10 c) an elongate housing for receipt of a portion of said pump; and
11 d) said dip tube:
12 1) providing fluid communication between the interior of the
13 container and said pump; and
14 2) extending in substantial parallelism with said housing.
- 1 2. A dip tube assembly for use with a pump having a first end for insertion into
2 a container and a second end for pumping material from the container, the
3 assembly comprising:
4 a) a dip tube support attachable to the first end of the pump; and
5 b) a hollow dip tube attachment arm projecting from said support
6 disposed generally parallel to said pump and opening toward the
7 second end of the pump.
- 1 3. The dip tube assembly of Claim 2 further comprising a first hollow leg
2 receivable on the first end of the pump; a second hollow leg extending
3 substantially normally from said first hollow leg; and a third hollow leg
4 extending substantially normally from said second hollow leg.

- 1 4. The dip tube assembly of Claim 3 further comprising a dip tube receivable on
2 said third hollow leg.
- 1 5. The dip tube assembly of Claim 1, wherein said dip tube includes a tube
2 having a first end extending upward from said pump mechanism and a
3 second extending downward relative to said first end and opening below said
4 first end;
5 wherein said first and second ends are connected by an arcuate section.
- 1 6. The dip tube assembly of Claim 5, wherein said tube is a flexible unitary
2 member.
- 1 7. The dip tube assembly of Claim 1, wherein said dip tube includes a cap
2 slidably received on said pump mechanism, said cap defining a channel
3 adjacent said pump mechanism and opening into said pump mechanism at a
4 first end and opening into said container at a second end, wherein said
5 second is located below said first end.
- 1 8. A pump apparatus for use with a container disposed in an inverted condition,
2 the pump apparatus comprising:
3 a pump having a nozzle that extending exteriorly of the container and a
4 pump housing extending into the container, wherein said pump housing is
5 open at a distal end thereof;
6 a dip tube having a first end attachable to said distal end and a second
7 end extending below said first end.
- 1 9. The pump apparatus of Claim 8, wherein said dip tube includes an arcuate
2 section between said first and second ends.

- 1 10. The pump apparatus of Claim 8 further comprising a bracket on said pump
2 housing, said bracket being engageable with said dip tube to restrict
3 movement thereof.
- 1 11. The pump apparatus of Claim 10 further comprising a bracket formed on
2 said pump housing, wherein said bracket is adapted to engage said second
3 end of said tube and restrict movement thereof.
- 1 12. The pump apparatus of Claim 10, wherein said bracket includes a pair of
2 arms extending radially from said pump housing and defining a dip tube
3 receiving gap therebetween.
- 1 13. The pump apparatus of Claim 12, wherein said pump housing defines a
2 recess below said distal end, wherein said arms extend radially inward into
3 said recess and wherein said second end of said tube is receivable between
4 said arms within said recess.
- 1 14. A pump apparatus for use in connection with a container disposed in an
2 inverted condition, the pump apparatus comprising:
3 a pump housing received within said container and a nozzle extending
4 exteriorly of said container, said pump housing having an open distal end;
5 a cap adapted to fit over a portion of said pump housing including said
6 distal end, said cap defining a channel having a first end opening into said
7 distal end and a second end opening into the container, wherein said second
8 end is located below said first end.
- 1 15. The pump apparatus of Claim 14, wherein said cap includes a sleeve-like
2 body open at its lower end and closed at its top end, said cap being slidably
3 received on said pump housing, said cap including a surface engageable with
4 said distal end of said pump body to space said closed end of said cap from
5 said open end of said distal end creating fluid communication therebetween,

6 wherein said channel extends radially outward from said opening above said
7 distal end and downward along an outer surface of said pump housing.

1 16. The pump apparatus of Claim 15, wherein said sleeve necks inwardly to
2 define said surface engagable with said pump housing to space said top
3 surface of said sleeve away from said distal end.

1 17. The pump apparatus of Claim 14 further comprising gripping means
2 extending inward from said sleeve and engage the exterior surface of the
3 pump housing.

1 18. The pump apparatus of Claim 17, wherein said gripping means includes a
2 plurality of ribs evenly circumferentially spaced relative to each other
3 located adjacent the distal end of said pump body and engagable therewith.

1 19. The pump apparatus of Claim 15, wherein said ribs extend in the axial
2 direction.